APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,784	11/05/2003	Daniel Mark Coffman	YOR920030465US1 (163-15)	7433

24336 7590 09/25/2007		EXAMINER	
KEUSEY, TUTUNJIAN & BITETTO, P.C. 20 CROSSWAYS PARK NORTH SUITE 210 WOODBURY, NY 11797		SIEDLER, DOROTHY S	
		ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/701,784	COFFMAN ET AL.
	Examiner	Art Unit	
	Dorothy Sarah Siedler	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after t he mailing date of this com munication, even if timely filed, may re duce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the amendment filled July 13, 2007. Claims 1-29 are

pending, with claims 1,11,12 and 22 amended.

Response to Amendment

Applicant has successfully amended claims 11 and 22; therefore the 35 U.S.C. §101

rejections of those claims are withdrawn.

Response to Arguments

Applicant's arguments with respect to claims 1 and 12 have been considered but

are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4,5,10-12,15,16,21-23 and 26 are rejected under 35 U.S.C. 102(b) as

being anticipated by *Ramaswamy* (6,311,150).

As per claim 1, *Ramaswamy* discloses a method for recognizing commands in natural

language, comprising the steps of:

Comparing an utterance to a plurality of handlers (column 2 lines 25-40, *an input utterance is translated using a natural language understanding engine comprised of a plurality of translator levels, with a plurality of categories associated with each level. Each category has associated formal language commands stored as a model*);

Identifying a winning handler for decoding a command from the utterance, wherein the winning handler is identified by arbitration between results provided by at least two of the plurality of handlers (column 2 lines 25-40, *scores for the probability of a correct translation are determined for at least two categories, then the category having the highest score is chosen and a formal command is output*); and

Decoding the command in accordance with the winning handler (column 2 lines 25-40, *scores for the probability of a correct translation are determined for at least two categories, then the category having the highest score is chosen and a formal command is output*).

As per claim 4, **Ramaswamy** discloses the method as recited in claim 1, wherein the handlers include an enabled or a disabled state and further comprising the step of presenting the utterance to enabled handlers (column 8 lines 25-44), *the top ranking categories for each level are determined (enabled state), then the next level translation is performed using either the highest or the two highest ranking categories*).

As per claim 5, **Ramaswamy** discloses the method as recited in claim 4, further comprising the step of submitting the utterance to disabled container handlers to ensure submission of the utterance to child handlers (column 8 lines 45-64, *thresholding is used to determine the number of categories from the top choice from a particular translation level that will be used in the next translation level. If the top choices don't exceed a threshold, then the next top choices are used as categories in the next level translation*).

As per claim 10, **Ramaswamy** discloses the method as recited in claim 1, wherein the step of decoding further includes executing a command in accordance with the winning handler, responsive to the utterance (column 2 lines 25-40, *scores for the probability of a correct translation are determined for at least two categories, then the category having the highest score is chosen and a formal command is output*).

As per claim 11, **Ramaswamy** discloses a computer-readable medium, tangibly embodying a program of instructions executable by a computer to perform method step for recognizing commands in natural language as recited in claim 1 (column 1 lines 40-46).

As per claim 12, **Ramaswamy** discloses a method for recognizing commands in natural language, comprising the steps of:

Providing a plurality of handlers trained to be responsive to given utterances (column 2 line 25-40 and column 3 lines 10-20);

Arbitrating against results provided by at least two of the plurality of handlers to determine a winning handler for an utterance (column 2 lines 25-40, *scores for the probability of a correct translation are determined for at least two categories, then the category having the highest score is chosen and a formal command is output*); and

Decoding the command in accordance with the winning handler (column 2 lines 25-40, *scores for the probability of a correct translation are determined for at least two categories, then the category having the highest score is chosen and a formal command is output*).

As per claim 15, this claim has limitations similar to claim 4, and is rejected for the same reason.

As per claim 16, this claim has limitations similar to claim 5, and is rejected for the same reason.

As per claim 21, this claim has limitations similar to claim 10, and is rejected for the same reason.

As per claim 22, this claim has limitations similar to claim 11, and is rejected for the same reason.

As per claim 23, **Ramaswamy** discloses a system for recognizing commands in natural language, comprising:

A speech recognizer for decoding language and semantic information in utterances provided by a user (column 4 lines 61-67); and

A dialog manager comprising a hierarchical ordering of handlers, each handler being trained to be responsive to decoded utterances wherein the dialog manager manages arbitration between the handlers to determine a winning handler for an utterance and decodes the command in accordance with the winning handler (column 2 lines 25-40 and column 3 lines 10-20, *the system includes a hierarchical configuration of translator, with many categories of models at each level. The models are trained using data from a domain of inputs*).

As per claim 26, this claim has limitations similar to claim 4, and is rejected for the same reason.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2,3,6,13,14,17,24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Ramaswamy* in view of *Amirghodsi* (4,974,191).

As per claims 2,13 and 24, *Ramaswamy* discloses the method as recited in claims 1,12 and 23, however *Ramaswamy* does not disclose wherein the step of identifying includes resolving ties in the arbitration between handlers by employing a tie-breaker handler. *Amirghodsi* discloses a system that classifies objects of speech into classes and resolves a deadlock or tie when it occurs (column 39 lines 11-15). *Amirghodsi* discloses a natural language translation system for a human/computer interface (column 2 lines 15-18), and is therefore analogous art.

Therefore it would have been obvious to one of ordinary skill in the art at the time
of the invention to resolve ties in the arbitration between handlers by employing a tie-
breaker handler in **Ramaswamy**, since it would enable the system to continue
processing after reaching a deadlock, as indicated in **Amirghodsi** (column 39 lines 11-
15), thus providing quick resolution of a tie, and increased processing speed.

As per claims 3,14 and 25, **Ramaswamy** in view of **Amirghodsi** disclose the method as
recited in claims 2,13 and 24, however **Ramaswamy** does not disclose wherein the tie-
breaker handler poses a question to a user to determine the winning handler.
Amirghodsi discloses a system that classifies objects of speech into classes and
resolves a deadlock or tie when it occurs (column 39 lines 11-15), as well as a system
that uses questions addressed to the user to gain further information in order to process
a user request (column 7 lines 44-55 and 59-62). **Amirghodsi** discloses a natural
language translation system for a human/computer interface (column 2 lines 15-18),
and is therefore analogous art.

Therefore it would have been obvious to one of ordinary skill in the art at the time
of the invention to have a tie-breaker handler pose a question to a user to determine the
winning handler in **Ramaswamy**, since it would enable the system to gather further
information, as indicated in **Amirghodsi** (column 7 lines 59-62), which would then be
used to determine the correct handler, thus providing quick resolution of a tie, and
increased processing speed.

As per claims 6 and 17, **Ramaswamy** discloses the method as recited in claims 1 and 12, however **Ramaswamy** does not disclose further comprising the step of submitting unresolved utterances to winning handlers of a previous utterance for decoding. **Amirghodsi** discloses a system that classifies objects of speech into classes and resolves a deadlock or tie when it occurs by assigning the last class reference to the remaining objects (column 39 lines 11-15). **Amirghodsi** discloses a natural language translation system for a human/computer interface (column 2 lines 15-18), and is therefore analogous art.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to submit unresolved utterances to winning handlers of a previous utterance for decoding in **Ramaswamy**, since it would enable the system to continue processing in the case of a deadlock or tie, as indicated in **Amirghodsi** (column 39 lines 11-15).

Claims 7-9, 18-20 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ramaswamy** in view of **Ramaswamy2** ("A Pervasive Conservational interface for information interaction" Eurospeech 99).

As per claims 7,18 and 27, **Ramaswamy** discloses the method as recited in claims 1,12 and 23, however **Ramaswamy** does not disclose the step of maintaining a database of a history of handler selections. **Ramaswamy2** discloses a system that maintains a database of a history of handler selections (section 2.2 Conversational System, third paragraph, *a multimodal history captures all conversational and graphical system events, and keeps track of the system state*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to maintain a database of a history of handler selections in **Ramaswamy**, in order to improve the natural language understanding system for the predictable result of enabling standard disambiguation and reference resolution, especially when many transactions are open, as indicated in **Ramaswamy2** (section 2.2 Conversational System, third and fifth paragraphs).

As per claims 8,19 and 28, **Ramaswamy** in view of **Ramaswamy2** disclose the method as recited in claims 7,18 and 27, however **Ramaswamy** does not disclose wherein the history includes time based ordering and ontological information. **Ramaswamy2** discloses wherein the history includes time based ordering and ontological information (section 2.2 Conversational System, third paragraph, *a multimodal history captures all conversational and graphical system events, and keeps track of the system state*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a history that includes time based ordering and ontological

information in **Ramaswamy**, in order to improve the natural language understanding

system for the predictable result of enabling standard disambiguation and reference

resolution, especially when many transactions are open, as indicated in **Ramaswamy2**

(section 2.2 Conversational System, third and fifth paragraphs).

As per claims 9,20 and 29, **Ramaswamy** in view of **Ramaswamy2** disclose the method

as recited in claims 7,18 and 27, however **Ramaswamy** does not disclose the step of

resolving unresolved utterances by employing information stored in the database.

Ramaswamy2 discloses resolving unresolved utterances by employing information

stored in the database (section 2.2 Conversational System, sixth paragraph, *the*

multimodal history is used for disambiguation and reference resolution).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the information stored in the database to resolve unresolved

utterances in **Ramaswamy**, in order to improve the natural language understanding

system for the predictable result of enabling standard disambiguation and reference

resolution especially when many transactions are open, as indicated in **Ramaswamy2**

(section 2.2 Conversational System, third and fifth paragraphs).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
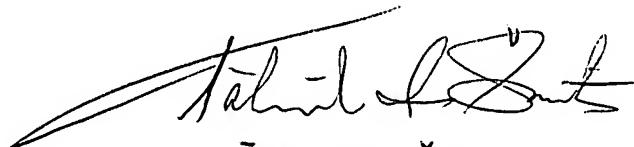
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dorothy Sarah Siedler whose telephone number is 571-270-1067. The examiner can normally be reached on Mon-Thur 9:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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DSS

TĀLIVALDIS IVARS ŠMITS
PRIMARY EXAMINER